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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.
08/957,045	10/24/97	DALUGE	S PB1517US3

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EXAMINER

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ART UNIT

PAPER NUMBER

1611

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Please find below and/or attached an Office communication concerning this application or proceeding.

Commissioner of Patents and Trademarks

**Best Available Copy**

<b>Office Action Summary</b>	Application No. <b>08/957,045</b>	Applicant(s) <b>Daluge</b>
	Examiner <b>Mark L. Berch</b>	Group Art Unit <b>1611</b>

- Responsive to communication(s) filed on \_\_\_\_\_
- This action is **FINAL**.
- Since this application is in condition for allowance except for formal matters, **prosecution as to the merits is closed** in accordance with the practice under *Ex parte Quayle* 35 C.D. 11; 453 O.G. 213.

A shortened statutory period for response to this action is set to expire 3 month(s), or thirty days, whichever is longer, from the mailing date of this communication. Failure to respond within the period for response will cause the application to become abandoned. (35 U.S.C. § 133). Extensions of time may be obtained under the provisions of 37 CFR 1.136(a).

#### Disposition of Claim

- Claim(s) 5, 9, and 18-20 is/are pending in the application.
- Of the above, claim(s) 5 is/are withdrawn from consideration.
- Claim(s) \_\_\_\_\_ is/are allowed.
- Claim(s) 9 and 18-20 is/are rejected.
- Claim(s) \_\_\_\_\_ is/are objected to.
- Claims \_\_\_\_\_ are subject to restriction or election requirement.

#### Application Papers

- See the attached Notice of Draftsperson's Patent Drawing Review, PTO-948.
- The drawing(s) filed on \_\_\_\_\_ is/are objected to by the Examiner.
- The proposed drawing correction, filed on \_\_\_\_\_ is  approved  disapproved.
- The specification is objected to by the Examiner.
- The oath or declaration is objected to by the Examiner.

#### Priority under 35 U.S.C. § 119

- Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d).
- All  Some\*  None of the CERTIFIED copies of the priority documents have been
- received.
- received in Application No. (Series Code/Serial Number) \_\_\_\_\_.
- received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

\*Certified copies not received: \_\_\_\_\_

- Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).

#### Attachment(s)

- Notice of References Cited, PTO-892
- Information Disclosure Statement(s), PTO-1449, Paper No(s). 5
- Interview Summary, PTO-413
- Notice of Draftsperson's Patent Drawing Review, PTO-948
- Notice of Informal Patent Application, PTO-152

-- SEE OFFICE ACTION ON THE FOLLOWING PAGES --

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## DETAILED ACTION

### *Election/Restrictions*

**Restriction is required under 35 U.S.C. 121 and 372.**

This application contains the following inventions or groups of inventions which are not so linked as to form a single general inventive concept under PCT Rule 13.1.

In accordance with 37 CFR 1.499, applicant is required, in response to this action, to elect a single invention to which the claims must be restricted.

- I.      Claim 5, drawn to aldehyde, classified in class 544, subclass 322,323.
- II.     Claims 9, 18-20, drawn to Ring Closure Process, classified in class 544, subclass 277.

The inventions listed as Groups I and II do not relate to a single general inventive concept under PCT Rule 13.1 because, under PCT Rule 13.2, they lack the same or corresponding special technical features for the following reasons: The compounds of Group I are not the product of Group II Moreover, Group II makes compounds with a special technical feature --- the purine ring --- not seen in Group I.

Note that Group I is under prosecution in the parent.

During a telephone conversation with K. Prus on 4/23/98 a provisional election was made without traverse to prosecute the invention of Group II, claims 9, 18-20. Affirmation of this election must be made by applicant in replying to this Office action. Claim 5 is

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**withdrawn from further consideration by the examiner, 37 CFR 1.142(b), as being drawn to a non-elected invention.**

**Applicant is reminded that upon the cancellation of claims to a non-elected invention, the inventorship must be amended in compliance with 37 CFR 1.48(b) if one or more of the currently named inventors is no longer an inventor of at least one claim remaining in the application. Any amendment of inventorship must be accompanied by a petition under 37 CFR 1.48(b) and by the fee required under 37 CFR 1.17(i).**

USP 5583226, appears to show in Example 4.2, the process claimed here, but is not prior art. None of the child cases 4693800, 5744601, and 5663340 have claims to the process either.

***Claim Rejections - 35 USC § 102 and 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless --

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

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**Claims 9, 18-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Daluge '697 in view of Vince or Daluge '671.**

The primary reference discloses applicants process in Column 8, lines 18-37, conversion of V to II, with one difference. Note that Z can be Cl (Column 7 line 64) and R<sup>2</sup> can be formyl (Column 7, line 29). The sole difference is that while applicants do the reaction with the amine protected (with R<sup>3</sup>), the claimed process is done with the amine not protected. This variation is shown in the secondary art. See Vince example 22, which corresponds in the last step in scheme 1, use of 6b. In Daluge '671, See Example 4, where again the amine in the 2 position of the pyrimidine is unprotected. In EP 413,544, note the page 3 cyclization and the disclosure at page 14, line 8 that R<sub>x</sub> can be H or a protecting group, i.e. that the amine can be protected or unprotected.

**Claim 9 is rejected under 35 U.S.C. 102(b) as being anticipated by EP 413544.**

See page 3, which describes the conversion of II to IA. R<sub>x</sub> can be H (see e.g. page 5, line 30 and also page 14, line 8), and R<sub>1</sub>' is Cl (see page 4, line 56). Indeed, this exact pair of choices is set forth at page 5, line 50. Q is set forth as formyl amino at page 3, line 46. Given the specific guidepost at page 5 to those two variables, and the fact that only two choices are given for Q, one of which is formylamino, this disclosure is deemed to anticipate the claimed process. Even if not, it clearly falls within the page 3 disclosure, and hence is obvious.

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*Claim Rejections - 35 USC § 112*

The following is a quotation of the second paragraph of 35 U.S.C. 112:

**The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.**

Claims 9, 18-20 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

1. “Glycosidic bond” is indefinite. There is no such thing. There is a single, double, triple, dative, and normalized bonds, etc.
2. The scope of R<sup>3</sup> in most places is unknown. The group is not defined.
3. In Claims 18-20, that starting material and final product do not have their definitions of R<sup>3</sup> aligned. Thus, in the starting material for Claim 20, it can be H, yet the product with H isn’t permitted.
4. The term “group” is unclear in Claim 18. Does everything have to be e.g. carbocyclic, or does there just have to be a carbocycle somewhere --- is Benzyl permitted? Can the carbocycle have substituents? Can hydrocarbyl? If so, the first term would appear to be completely covered by the second.
5. “Heterocyclic” is indefinite. What is the size of the ring? What is the number and nature of the heteroatoms? Can the ring be fused or spiroconnected to another ring? Can the ring be bridged? Unsaturated? All the claim recites is the number of carbons, and it isn’t even clear if this is the number of carbons in the ring or in the entire group.

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6. The claims fail to recite doing a specific step. "Ring Closure" is a noun phrase; the claim does recite the positive step of actually doing anything. Further even the equivalent verb form, e.g. "Comprising closing the ring" would be unduly functional. It recites what the result is, without saying how it is done. Such language merely identifies the starting material and final product, but would not say specifically what was done. Is there, for example, a reactant? If so, the claim should state "reacting with ...".

7. Ac needs to be defined in Claim 19.

The amendment to the specification could not be entered as is was unclear where it ends. Note that there is a left quotation to begin the insertion, but none to end it. Reference should be made to the PCT application.

Any inquiry concerning this communication or earlier communications from the Examiner should be directed to Mark L. Berch whose telephone number is 703-308-4718.



Mark L. Berch

Primary Examiner

Group 1610 - Art Unit 1611

May 11, 1998